State Aid – 10 Ton Flexible Pavement Design – 2/25/2014

For 10 Ton flexible pavement design, designers must use either MnPAVE at: http://www.dot.state.mn.us/app/mnpave or the R-value and equivalent single axel loads (ESAL's) method.

MnPAVE Option

Please use the following settings within MnPAVE:

1. Within the "Structure" module, choose "Intermediate"
    a. Under "View" choose "Test Results"
    b. Under "Soil Test Type" choose "R-Value"
    c. Check the box in the soil layer and enter the R-Value
2. Choose the "ESAL" option above the "Traffic" module. You can use the ESAL result from the State Aid ESAL Calculator at http://www.dot.state.mn.us/stateaid/esal.html for the input "Lifetime" ESAL value in MnPAVE. Be sure that the design life is for the same time period as the ESALs were calculated.

R-Value and ESAL Option

In addition, for R-Value designs, use either the "Bituminous Pavement Design Chart (Aggregate Base)" also known as MnDOT R-Value Chart at: http://www.dot.state.mn.us/materials/pvmtdesign/docs/RValueChart.pdf

or the MnDOT Flexible Pavement software (electronic version of the R-value chart) at: http://www.dot.state.mn.us/materials/pvmtdesign/software.html

If you have a question(s) about either MnPAVE or the R-value and ESAL method, please contact your respective MnDOT District Materials Engineer for assistance. In addition, the MnDOT Pavement Design Engineer, Tim Andersen at 651-366-3831 is available to discuss the pavement design.

When submitting Federal Aid or State Aid plans please include a copy for both the input parameters and the output solution.

State Aid – Ultimate 10 Ton Staged Flexible Pavement Design – 2/25/2014

The agency initially builds a pavement structure that has 9 ton axle load carrying capacity year round. The agencies intent is to add to the pavement structure sometime in the future to ultimately provide a year round 10 Ton axle capacity pavement structure.

During the initial roadway construction, the agency builds the roadway geometric section needed to ultimately accommodate a 10 ton pavement section. The "Ultimate 10 Ton Staged Flexible Pavement Design" chart, dated 1/10/2011 is to be used for this type of design. This chart is available at the following link: http://www.dot.state.mn.us/stateaid/projectdelivery/pdp/tools/ultimate-10-ton.pdf

Any roadway constructed under "Ultimate 10 Ton Staged Flexible Pavement Design" may need to be load posted accordingly.